



Response Under 37 CFR §1.116
Expedited Procedure
Examining Group 1621

CASE PH/58-19848/A/PCT/CONT

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May 22, 1998

Date

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF

Art Unit: 1621

JALETT ET AL.

Examiner: S. Kumar

APPLICATION NO: 08/926,835

FILED: SEPTEMBER 10, 1997

FOR: PROCESS FOR THE HYDROGENATION OF IMINES

Box AF

Assistant Commissioner for Patents

Washington, D.C. 20231

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GROUP 1800

RESPONSE AFTER FINAL REJECTION

Sir:

In response to the Office Action, Paper No. 10, dated December 22, 1997, rejecting finally the instant claims, the following remarks are respectfully submitted for entry and consideration. A Notice of Appeal and a Petition for a two-month extension of time for response are filed concurrently herewith.

Claims 1-37 are pending herein and stand rejected over U.S. patent 5,112,999 (Osborn et al., collectively "Osborn") alone and in view of various secondary references as will be discussed below.

By way of summary, the instantly claimed hydrogenation process of imines is characterized by the additional presence of an acid. This critical feature clearly distinguishes the presently claimed invention from the processes described in the cited prior art. For this reason alone, the present claims are patentable.

102(b) rejection over Osborn

Applicants respectfully traverse the § 102(b) rejection of claims 1-35 over Osborn.

Osborn is cited and distinguished in the background description of the instant application. Applicants respectfully submit that there is insufficient evidence in the cited reference to support the Examiners position that the presently claimed invention is anticipated. More specifically, Osborn is totally silent on the use of an acid in the process described therein. Accordingly, claims 1-35 are novel over this reference and not at all anticipated in Osborn's teaching. To the contrary, Osborn only employs alkaline metal or ammonium halides in the process (see column 6, lines 49 to 54). Moreover, no ingredients are present in the reaction mixture of Osborn which could generate an acid during the hydrogenation process. Reconsideration and withdrawal of the § 102 rejection are respectfully requested.

103 rejection

Applicants respectfully traverse the § 103 rejection of claims 1-37 over Osborn in view of various secondary references.

The distinctions between Osborn and the claimed invention are discussed above. The secondary references do not remedy the deficiencies of the primary reference.

Burk neither discloses the addition of halide for the hydrogenation nor the addition of a metal or ammonium halide. The halide mentioned in the abstract is used to cleave the N-N bond of the hydrozones obtained by the hydrogenation in separate reaction.

Petit discloses some chiral ligands with amine and phosphine moieties not encompassed by the term diphosphines as used in the instant invention. The compounds are used as ligands in hydrogenation catalysts. Again there is not even the slightest hint on the additional use of an acid. Thus, the instant process is well distinguished from Petit by the presence of an halide and an acid.

Blackborow discloses the hydrogenation of imines with metal catalysts like platinum on carbon and again there is no hint to additionally use an acid. Halides are not present in the reaction mixture.

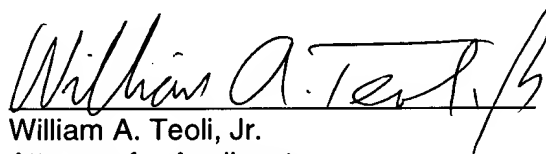
Cho uses boron hydrides with chiral ligands as catalysts and does neither add an acid nor a metal or ammonium halide.

Accordingly, it appears that the Examiner has failed to appreciate the invention and cites therefore prior art which bears only a superficial relevance, but does not render obvious the claimed process. Moreover, the cited prior art does not show that activity of (known catalysts as for example described by Osborn) is increased, deactivation is reduced or eliminated, and additionally, enantioselectivity is high even at higher reaction temperatures (page 1, paragraph 4 of the specification), when an acid is added to the reaction mixture to be hydrogenated. With the explanations presented herein, the Examiner is respectfully requested to reconsider and to withdraw the § 103 rejection of the claims.

Applicants respectfully submit that the present application is now in condition for allowance. A Notice of Allowance is respectfully solicited. If any fee is due in connection with this response, the Assistant Commissioner is authorized to charge Deposit Account No. 19-0134 for the appropriate amount.

Respectfully submitted,

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Date: May 22, 1998

**ENCL. Petition for two-month extension
Notice of Appeal**